



04-13-04

1615

VPI/98-06DIV

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Examiner : Not Yet Assigned  
Group : 1615  
Applicants : Michael R. Hale et al.  
Appln. No. : 10/600,937 Confirmation No.: 6239  
Filed : June 20, 2003  
For : SULFONAMIDE INHIBITORS OF ASPARTYL  
PROTEASE

New York, New York  
April 12, 2004

Hon. Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

TRANSMITTAL LETTER FOR  
INFORMATION DISCLOSURE STATEMENT

Sir:

Transmitted herewith is an Information Disclosure  
Statement in the above-identified application. This  
Statement is submitted:

- ☐ within three months of the application filing date;
- ☒ more than three months from the application filing date but before the mailing date of the first Office Action on the merits.

In accordance with 37 C.F.R. §§ 1.97(b)(3),  
submission of this Statement requires no fee. However, if  
for any reason a fee is due, the Director is hereby

EV132198497US



authorized to charge payment of any fees required in connection with this Information Disclosure Statement to Deposit Account No. 06-1075. A duplicate copy of this letter is transmitted herewith.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "James F. Haley, Jr.", written over a horizontal line.

James F. Haley, Jr. (Reg. No. 27,794)  
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STATEMENT UNDER 37 C.F.R. §§ 1.56 AND 1.97(b)

Sir:

Pursuant to 37 C.F.R. §§ 1.56 and 1.97(b),  
applicants, through their representatives, make of record  
the documents listed below. A completed Form PTO-1449  
listing all of the documents is enclosed herewith.

United States Patents

Mohrs et al.	3,743,722	issued July 3, 1973
Descamps et al.	4,330,542	issued May 18, 1982
Ryono et al.	4,629,724	issued December 16, 1986
Martin et al.	5,196,438	issued March 23, 1993
Kempf et al.	5,354,866	issued October 11, 1994
Talley et al.	5,622,949	issued April 22, 1997
Tung	5,723,490	issued March 3, 1998
Vazquez et al.	5,744,481	issued April 28, 1998
Vazquez et al.	5,843,946	issued December 1, 1998

### European Patent Applications

0 022 118	published January 7, 1981
0 181 071	published May 14, 1986
0 264 795	published April 27, 1988
0 346 847	published December 20, 1989
0 364 804	published April 25, 1990
0 434 365	published June 26, 1991
0 468 641	published January 29, 1992
0 486 948	published May 27, 1992
0 541 168	published May 12, 1993
0 594 540	published April 27, 1994

### German Patent Application

DE 3542567	published June 5, 1986
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### Great Britain Patent Application

2,167,759	published June 4, 1986
2,200,115	published July 27, 1988

### PCT International Patent Applications

WO 90/07329	published July 12, 1990
WO 91/00725	published January 24, 1991
WO 91/18866	published December 12, 1991
WO 92/08688	published May 29, 1992
WO 92/08698	published May 29, 1992
WO 92/08699	published May 29, 1992
WO 92/08700	published May 29, 1992
WO 92/08701	published May 29, 1992
WO 92/17176	published October 15, 1992
WO 93/23368	published November 25, 1993
WO 93/23388	published November 25, 1993
WO 93/23379	published November 25, 1993
WO 94/04491	published March 3, 1994
WO 94/04492	published March 3, 1994
WO 94/04493	published March 3, 1994
WO 94/05639	published March 17, 1994
WO 94/10134	published May 11, 1994
WO 94/10136	published May 11, 1994
WO 94/18192	published August 18, 1994
WO 94/19322	published September 1, 1994

WO 95/06030	published March 2, 1995
WO 95/07269	published March 16, 1995
WO 95/09843	published April 13, 1995
WO 95/14016	published May 26, 1995
WO 95/32185	published November 30, 1995
WO 96/33184	published October 24, 1996
WO 96/33187	published October 24, 1996
WO 00/76961	published December 21, 2000

#### Japanese Patent Abstracts

JP 59-46252	published March 15, 1984
JP 59-48449	published March 19, 1984
JP 61-71830	published April 12, 1986

#### Other Documents

Thompson et al, Ann. Reports Med. Chem., 36, pp. 247-257 (2001).

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- A. Goldblum, "Modulation of the Affinity of Aspartic Proteases by the Mutated Residues in Active Site Models", FEBS, 261, pp. 241-44 (1990).

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G.D. Hartman et al., "4-Substituted Thiophene- and Furan-2-sulfonamides as Topical Carbonic Anhydrase Inhibitors", J. Med. Chem., 35, pp. 3822-31 (1992).

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J.R. Huff, "HIV Protease: A Novel Chemotherapeutic Target for AIDS", Journal of Medicinal Chemistry, 34(8), pp. 2305-14 (1991).

K.Y. Hui et al., "A Rational Approach in the Search for Potent Inhibitors Against HIV Proteinase", FASEB, 5, pp. 2606-10 (1991).

Y. Kiso et al., "'O→N Intramolecular Acyl Migration'-type Prodrugs of Tripeptide Inhibitors of HIV Protease", Peptides: Chemistry, Structure and Biology, 61, pp. 157-159 (1996).

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J.A. Martin, "Recent Advances in the Design of HIV Proteinase Inhibitors", Antiviral Research, 17, pp. 265-78 (1992).

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- M.S. Plummer et al., "Design of Peptidomimetic Ligands for the pp60<sup>src</sup> SH2 Domain", Bioorganic & Medicinal Chemistry, 5, pp. 41-47 (1997).
- M. Popvic et al., "Detection, Isolation, and Continuous Production of Cytopathic Retroviruses (HTLV-III) from Patients with AIDS and Pre-AIDS", Science, 224, pp. 497-500 (1984).
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- N.A. Roberts, "Rational Design of Peptide-Based HIV Proteinase Inhibitors", Science, 248, pp. 358-61 (1990).



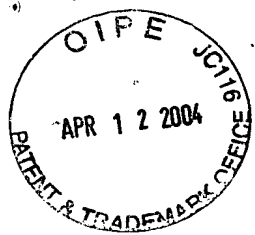
S. Scharpe et al., "Proteases and Their Inhibitors: Today and Tomorrow", Biochimie, 73, pp. 121-26 (1991).

S.K. Sharma et al., "Could Angiotensin I Be Produced from a Renin Substrate by the HIV-1 Protease?", Anal. Biochem., 198, pp. 363-67 (1991).

S. Yamaguchi et al., "Synthesis of HIV Protease Dipeptide Inhibitors and Prodrugs", Peptide Chemistry 1996, pp. 297-300 (1997).

Copies of all the documents listed above were submitted by applicants in the parent United States Patent Application No. 09/731,129, now United States Patent 6,613,734; or were cited by the Examiner during prosecution of said parent application. Pursuant to 37 C.F.R. §1.98(d), applicants have not enclosed copies of the listed documents. However, applicants stand ready to provide copies at the Examiner's request.

Applicants respectfully request that the documents listed above be (1) fully considered by the Examiner during the course of examination of this application and (2) printed on any patent issuing from this application. Applicants also request that the Examiner forward a copy of the enclosed Form PTO-1449, duly



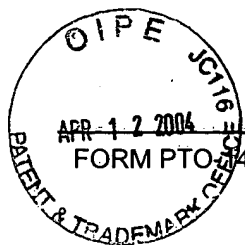
acknowledged and initialed by the Examiner, to the undersigned with the next Communication.

Respectfully submitted,

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James F. Haley, Jr. (Reg. No. 27,794)  
Min Wang (Reg. No. 51,303)  
Attorneys for Applicants

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APR 12 2004  
FORM PTO-449U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICEATTY. DOCKET NO.  
VPI/98-06DIVSERIAL NO.  
10/600,937INFORMATION DISCLOSURE  
STATEMENT BY APPLICANTAPPLICANTS  
Michael R. Hale, et al.

CONF. NO.: 6239

FILING DATE  
June 20, 2003GROUP  
1615

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	3,743,722	7/3/73	Mohrs et al.	424	98	
	4,330,542	5/18/82	Descamps et al.	424	248.5	
	4,629,724	12/16/86	Ryono et al.	514	18	
	5,196,438	3/23/93	Martin et al.	514	311	
	5,354,866	10/11/94	Kempf et al.	546	265	
	5,622,949	4/22/97	Talley et al.	514	237.8	
	5,723,490	3/3/98	Tung	514	478	
	5,744,481	4/28/98	Vazquez et al.	514	311	
	5,843,946	12/1/98	Vazquez et al.	514	252.11	

## FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
						YES	NO
	0 022 118	1/7/81	EP				
	0 181 071	5/14/86	EP				
	0 264 795	4/27/88	EP				
	0 346 847	12/20/89	EP				
	0 364 804	4/25/90	EP				
	0 434 365	6/26/91	EP				
	0 468 641	1/29/92	EP				
	0 486 948	5/27/92	EP				
	0 541 168	5/12/93	EP				
	0 594 540	4/27/94	EP				
	3542567	6/5/86	DE				

EXAMINER

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EV132198497US

FORM PTO-1449		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTY. DOCKET NO. VPI/98-06DIV		SERIAL NO. 10/600,937	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				APPLICANTS Michael R. Hale, et al.		CONF. NO.: 6239	
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	2,167,759	6/4/86	GB				
	2,200,115	7/27/88	GB				
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	WO91/00725	1/24/91	PCT				
	WO91/18866	12/12/91	PCT				
	WO92/08688	5/29/92	PCT				
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	WO94/19322	9/1/94	PCT				
	WO95/06030	3/2/95	PCT				
	WO95/07269	3/16/95	PCT				
	WO95/09843	4/13/95	PCT				
	WO95/14016	5/26/95	PCT				
	WO95/32185	11/30/95	PCT				
	WO96/33184	10/24/96	PCT				
	WO96/33187	10/24/96	PCT				
	WO00/76961	12/21/00	PCT				
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## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

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	Thompson et al, Ann. Reports Med. Chem., 36, pp. 247-257 (2001).
	Polman et al, BMJ, 321, pp. 490-494 (2000).
	Cohen et al, J. Neuroimmun., 98, pp. 29-36 (1999).
	Menendez-Arias et al., "Moloney Murine Leukemia Virus Protease: Bacterial Expression and Characterization of the Purified Enzyme," Virology, 1996, pp. 557-563 (1993).
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Attorney Docket No. VPI/98-06DIV

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Examiner : Not yet assigned

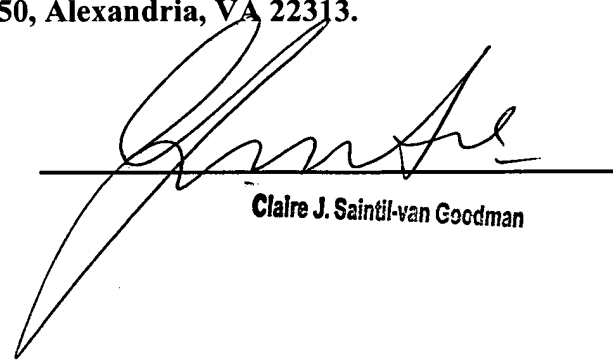
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April 12, 2004

Hon. Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

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\_\_\_\_\_  
Claire J. Saintil-van Goodman

**Encl:**

- Transmittal Letter (in duplicate);
- Statement Under 37 C.F.R. §§ 1.56 and 1.97(b) (in duplicate);
- Form PTO-1449 (in duplicate)